

ATTORNEY DOCKET NO.
11S21-P054WOUS



1754
S.H./JFW

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In application of: James M. Tour et al.

Serial No.: 10/521,903

Filing Date: July 15, 2003

Art Unit: 1754

Examiner: N/Y/A

Title: *Process for Functionalizing Carbon Nanotubes Under Solvent-Free Conditions*

Mail Stop: Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

UNDER 37 C.F.R. § 1.97(b)

Applicant hereby submits this Supplemental Information Disclosure Statement and following references in accordance with 37 C.F.R. §§ 1.56, 1.97 and 1.98. Copies of the references cited in the attached PTO/SB/08B are enclosed for the examiner's reference. Furthermore, pursuant to 37 C.F.R. § 1.97(g) and (h), no representation is made that this is material to patentability of the present application or that a search has been made.

Applicant hereby submits that claims of Applicant's referenced patent application are patentably distinguishable from these references.

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ATTORNEY DOCKET NO.
11321-P054WOUS

Applicant does not believe that any fees are due at this time; however, the Director of Patents and Trademarks is hereby authorized to charge any fees relating to this Information Disclosure Statement under 37.CFR § 1.17 to Deposit Account No. 23-2426 of WINSTEAD SECHREST & MINICK P.C. (referencing matter 11321-P054WOUS).

Respectfully submitted,

Date: 6 September 2007



Victor Behar, Reg. No. 60,691

AGENT FOR APPLICANT

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CERTIFICATE OF MAILING

I hereby certify that the attached *Information Disclosure Statement* and cited art are being deposited with the USPS, with sufficient postage as first class mail, addressed to Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this the 6th day of September 2007.

Septem[er] 6, 2007
Date

Cherita Grimstead

Cherita Grimstead

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PTO/SB/08A (04-03)

Approved for use through 04/30/2003, OMB 0651-0031

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Sheet 1 of 6

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FOREIGN PATENT DOCUMENTS

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Transliteration is attached.
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Sheet

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Application Number	10/521,903
Filing Date	July 15, 2003
First Named Inventor	James M. Tour
Art Unit	1754
Examiner Name	Unknown
Attorney Docket Number	11321-P054WOUS

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	5	Ebbesen et al., "Large-scale synthesis of carbon nanotubes" 358 Nature (1992), pp. 220-222	
	6	Ebbesen et al., "Carbon Nanotubes", 24 Annual Review of Materials Science (1994), pp. 235-264	
	7	Iijima et al., "Helical microtubes of graphitic carbon" 354 Nature (1991), pp. 56-58	
	8	Saito et al., Physical Properties of Carbon Nanotubes, 1998, London: Imperial College Press	
	9	Sun et al., "Creating the narrowest carbon nanotubes" 403 Nature (2000), pg. 384	
	10	Qin et al., "Electron Microscope imaging and contrast of smallest carbon nanotubes", 349 Chem. Phys. Lett. (2001), pp. 389-393	
	11	Wang et al., "The smallest carbon nanotube", 408 Nature (2000), pp. 50-51	
	12	Hafner et al., "Catalytic growth of single-wall carbon nanotubes from metal particles" 296 Chem. Phys. Lett. (1998), pp. 195-202	
	13	Cheng et al., "Bulk morphology and diameter distribution.." 289 Chem. Phys. Lett. (1998), pp. 602-610	
	14	Nikolaev et al., "Gas-phase catalytic growth of single-walled carbon nanotubes.." 313 Chem. Phys. Lett. (1999), pp. 91-97	

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				Filing Date	July 15, 2003
				First Named Inventor	James M. Tour
				Art Unit	1754
				Examiner Name	Unknown
Sheet	3	of	6	Attorney Docket Number	11321-P054WOUS

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	15	Thess et al., "Crystalline Ropes of Metallic Carbon Nanotubes" 273 Science (1996), pp. 483-487		
	16	Vander Wal et al., "Flame and furnace synthesis of single-walled and multi-walled carbon nanotubes...", 105 J. Phys. Chem. B. 42 (2001), pp. 10249-10256		
	17	Rao, et al., "Functionalised carbon nanotubes from solutions" Chem. Commun. (1996),pp. 1525-1526		
	18	Wong, et al., "Covalently functionalized nanotubes as nanometresized probes in chemistry and biology", 394 Nature (1998), pp. 52-55		
	19	Liu, et al., "Fullerene Pipes" 280 Science (1998), pp. 1253-1256		
	20	Chen, et al., "Solution Properties of Single-Walled Carbon Nanotubes", 282 Science (1998), pgs. 95-98		
	21	Aihara, "Lack of Superaromaticity in Carbon nanotubes", 98 J. Phys. Chem. (1994), pgs. 9773-9776		
	22	Chen, Y. et al., "Chemical attachment of organic and functional groups to single-walled carbon nanotube material", 13 J. Mater Res. (1998), pp. 2423-2431		
	23	Bahr et al., "Covalent chemistry of single-wall carbon nanotubes", 12 J. Mater. Chem. (2002), pp. 1952-1958		
	24	Banerjee et al., "Rational Chemical Strategies for Carbon Nanotube Functionalization", 9 Chem. Eur. J. (2003), pgs. 1899-1908		

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	25	Holzinger et al., "Sidewall Functionalization of Carbon Nanotubes", 40 Angew. Chem. Int. Ed. 21 (2001), pp. 4002-4005		T ²
	26	Bahr et al., "Dissolution of small diameter single-wall carbon nanotubes in organic solvents", Chem. Commun. (2001), pgs. 193-194		
	27	Tanaka et al., "Solvent-Free Organic Synthesis", 100 Chem. Rev. (2000), pp. 1025-1074		
	28	Georgakilas et al., "Organic Functionalization of Carbon Nanotubes", 124 J. Am. Chem. Soc., 5 (2002), pp. 760-761		
	29	Meier et al., "Addition of Nitrile Oxides to C60: Formation of Isoxazolene Derivatives of Fullerenes", 58 J. Org. Chem. (1993), pgs. 4524		
	30	Belik et al., "Diels-Alder Adduct of C60 and 4-Carboxy- <i>o</i> -quindimethane: Synthesis and Chemical Transformations", 60 J. Org. Chem. Soc. (1995), pgs. 3307-3310		
	31	Hirsch et al., "Fullerene Chemistry in Three Dimensions: Isolation of Seven Regiosomeric Bisadducts and Chiral Trisadducts of C60 and Di(ethoxycarbonyl) methylene", 33 Angew. Chem. Int. Ed. (1994), pgs. 437-438		
	32	Liang et al., "Electronic Structures and Optical properties of Open and capped Carbon nanotubes", 122 J. Am. Chem. Soc. (2000), pgs. 11129-11137		
	33	Jost et al., "Diameter grouping in bulk samples of single-walled carbon nanotubes from optical absorption spectroscopy", 75 J. Appl. Phys. Lett. (1999), pgs. 2217-2219		
	34	Wu et al., "Finite size effects in carbon nanotubes", 77(16) Appl. Phys. Lett. (2000), pgs. 2554-2556		

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	35	Richter et al., "Theory of Size-Dependent Resonance Raman Scattering from Carbon Nanotubes", 79 Phys. Rev. Lett., Science (1997), pgs. 2738-2740		
	36	Rao et al., "Diameter-Selective Raman Scattering from Vibrational Modes in Carbon Nanotubes", 275 Science (1997), pp. 187-191		
	37	Li et al., "Temperature dependence of the Raman spectra of single-wall carbon nanotubes", 76 Appl. Phys. Lett. (2000), pgs. 2053-2055		
	38	Chiang et al., "Purification and Characterization of Single-Wall Carbon Nanotubes...", 105 J. Phys. Chem. B (2001), pgs. 8297-8301		
	39	Bahr et al., "Functionalization of Carbon nanotubes by Electrochemical Reduction of Aryl Diazonium Salts: A Bucky Paper Electrode", 123 J. Am. Chem. Soc. (2001), pgs. 6536-6542		
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	41	Niyogi et al., "Chemistry of Single-Walled Carbon Nanotubes", 35 Acc. Chem. Res. (2002), pgs. 1105-1113		
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	43	Meier et al., "Benzyne Adds Across a Closed 5-6 Ring Fusion in C ₇₀ : Evidence for Bond Delocalization in Fullerenes", 120 J. Am. Chem. Soc. (1998), pgs. 2337-42		
	44	Hirashima et al., "Fluoride-Induced 1,2-Elimination of O-Trimethylsilyl-Phenyl Triflate to Benzyne Under Mild Conditions", Chem. Soc. of Japan (1983), pgs. 1211-1214		

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